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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,377	03/12/2004	Brian J. Buckmeier	750.1185	7296

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EXAMINER

THOMAS, LUCY M

ART UNIT	PAPER NUMBER
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2836

DATE MAILED: 12/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/799,377	Applicant(s) BUCKMEIER ET AL.	
	Examiner Lucy Thomas	Art Unit 2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 November 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. Figures 1-4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claim 42 is objected to because of the following informalities: Claim 42 recites the limitation "the circuit" in line 1. There is insufficient antecedent basis for this limitation in the claim. It appears that the Applicant meant "Claim 41" in line 1, in place of "Claim 1." Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-11, 17-20, 21-31, 37-40, and 41-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Townsend et al (US 5,736,910) in view of Ninh (US

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6,212,274). Regarding Claim 1, Townsend discloses a connector 10 comprising at least one pair of contacts $12_1, \dots, 12_n$; at least one pair of terminals $54_1, \dots, 54_m$ electrically coupled to said contacts by at least one pair of conductors (circuit means provided circuit board assembly 13a); and a transient voltage suppression component electrically coupled to said contacts and said terminals, including a transient voltage suppression device 15 (Figure 1, Column 3, lines 47-67). Townsend does not disclose a frequency compensation device. Ninh discloses a connector J1 with a transient voltage suppression device RV1 (Figure 7) and a frequency compensation device L1-L2 (Figure 7). It would have been obvious to those skilled in the art at the time the invention was made to modify Townsend's connector with a transient voltage suppression device and a frequency compensation device, as taught by Ninh, to reduce cost because use of a frequency compensating device along with the voltage suppressing device allows the capacitor value to perform the same compensation function as larger capacitor. Regarding Claim 2, Ninh discloses the connector, wherein the frequency compensator device is coupled in series with the transient voltage suppression device (Figure 7).

Regarding Claim 3, Townsend discloses the connector, wherein said transient voltage suppression component is coupling said pair of conductors (Column 3, lines 47-62). Regarding Claims 4-5, Ninh discloses the frequency compensation device, which is an inductor L1-L4, and one transient voltage suppression device RV1 and one frequency compensation device L1-L2 used for each pair of conductors (see Figure 7). Claim 6 recites the connector, wherein two of said transient voltage suppression devices and two of said frequency compensation devices are used for each pair of

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conductors. It would be obvious to those skilled in art to use summation of circuit elements to satisfy the power rating requirements of the system. Claim 7 only recites basically Claim 2 and Claim 6 combined, and does not add any further limitation, as Claim 2 has already limited the elements to be in series. Claim 8 basically recites Claim 6, except that it additionally recites that said frequency compensation devices are coupled to ground, which is a common practice in the art to provide a safety path to the undesired signals to ground. The first part of Claim 9 basically recites Claim 6, except using a broader limit of a set of elements, instead of 2 elements. The second part of Claim 9, and Claim 10 basically adds plurality of set of elements. It would be obvious to those skilled in art to use summation of circuit elements to satisfy the power rating requirements of the system. The additional recitation of how the set of elements are coupled does not add any limitation as the Claim 2, already limits the elements to be in series connection.

Regarding Claim 11, Townsend, discloses the connector 10 further comprising a filter component 70a, 70b, 72a, 72b electrically coupled to said pair of conductors (Figure 5, Column 2, lines 6-8, 42-50, Column 4, lines 40-48).

Regarding Claim 17, Townsend discloses the connector, wherein said transient voltage suppression device protects against electrostatic discharge (Column 2, lines 9-12). Regarding Claim 18, Townsend discloses the connector, wherein said transient voltage suppression device protects against differential voltage surges (Column 2, lines 44-47). Claim 19 recites that said transient voltage suppression device, necessarily protects against voltage surges above a certain threshold, and Claim 20 only recites the

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function of an inductor as an energy storage device, which is inherently performed by the inductor.

Claims 21-25 basically recite the elements of Claims 1-5, except that a transient voltage suppression component is claimed for use in a connector. The rejection of Claims 1-5 would apply as the above mentioned connector provides a transient voltage suppression component. Claim 31 recites the elements of Claim 11, Claims 26-30 recite the elements of Claim 6-10, and Claims 37-40 recite the elements of Claims 17-20 for the transient voltage suppression component used in the connector. Claim 41 recites a circuit with the recited elements of Claim 1. Regarding Claim 42, said transient voltage suppression component is inductively coupled to said conductor. Regarding method Claims 43-44, the recited steps would necessarily be performed when using the connector as recited in Claims 1-2, and therefore may be rejected on the same basis as Claims 1-2.

5. Claim 12-16 and 32-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Townsend et al (US 5,736,910) in view of Ninh (US 6,212,274) and Hershfield (US 4,677,518). Regarding Claims 12-15, neither Townsend or Ninh disclose a voltage suppression device which includes a varistor as recited in Claim 12, or a Zener as recited in Claim 13, or a diode as recited in Claim 14, or a current limiting device as recited in Claim 15. Hershfield discloses a voltage suppression device, which includes a varistor (see 14 in Figure 1, 44,50,58 in Figure 4, 110, 112 in Figure 6, Column 1, lines 6-15), a Zener diode (see 34 in Figure 3, Column 3, lines 67-69), a diode (see 128 in Figure 6), and current limiting device (see 36 in Figure 3). It would be

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obvious to those skilled in the art to include the above-recited elements in a voltage suppression device, as these elements are known to protect electrical systems from transient voltages. Zener diode and varistor limit the amplitude of voltage transients applied to the electrical equipment being protected, a current limiting element protects other components of a protection circuit from damage by excessive current, and using varistor as a current limiting element has the added advantage that the voltage across the combination of elements at high currents. Claim 16 only adds functional limitation of a Zener diode or diode recited in Claim 13-14. Claims 32-36 recite the elements of Claims 12-16 for the transient voltage suppression component for use in the connector.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lucy Thomas whose telephone number is 571-272-6002. The examiner can normally be reached on Monday - Friday 8:00 AM - 4:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on 571-272-2058. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LT

November 28, 2005



PHUONG T.
PRIMARY EXAMINER